

Fig. 1

BREAST TUMOR mRNA
NORMAL BREAST TISSUE mRNA

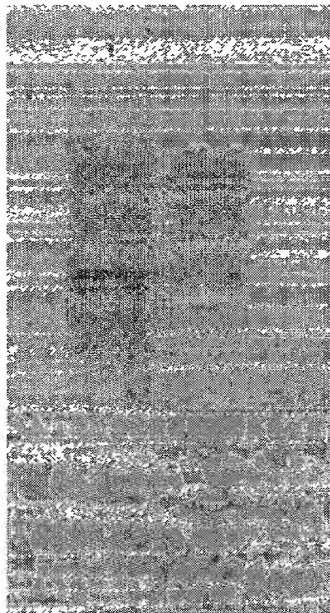


Fig. 2

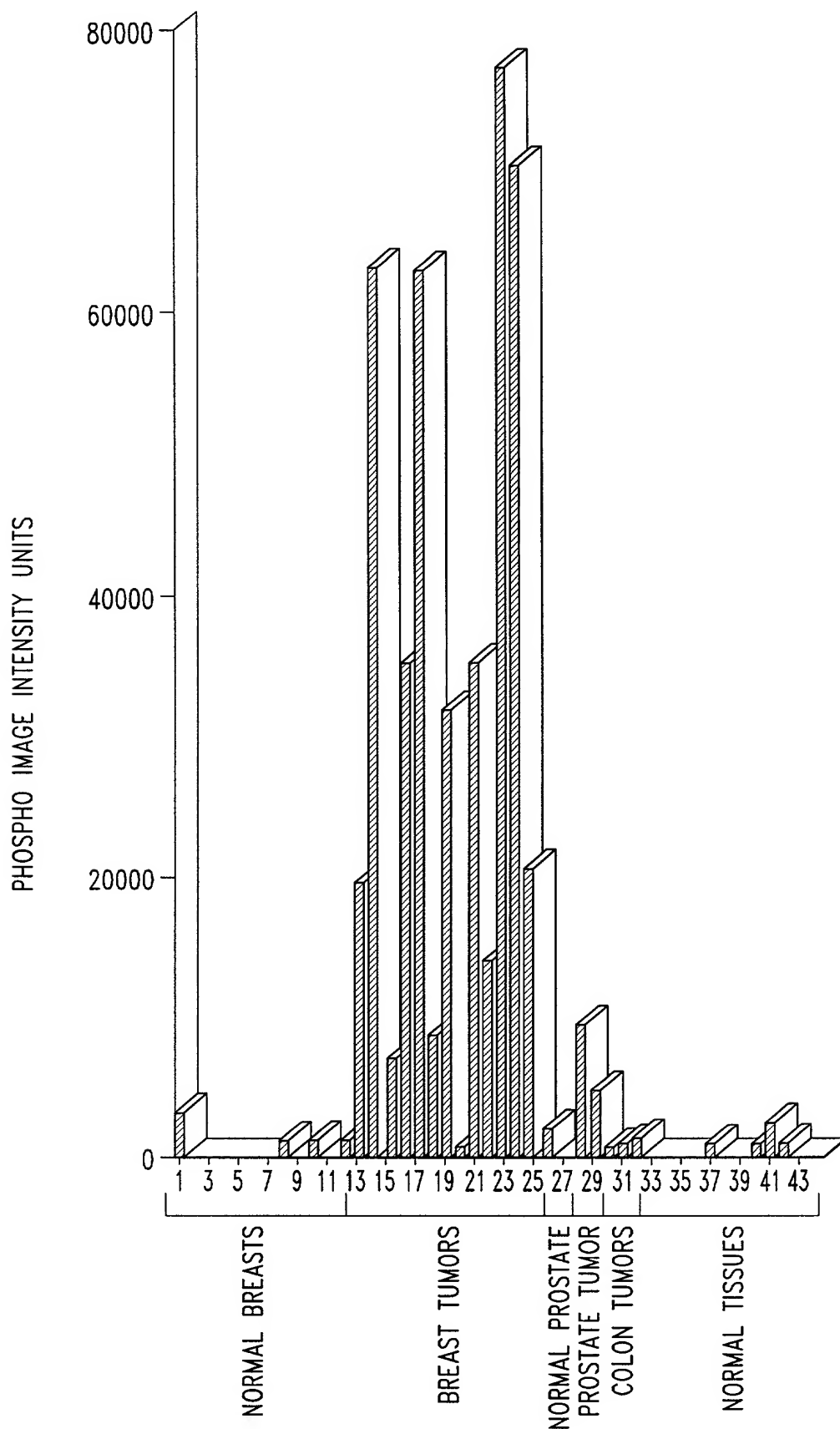


Fig. 3

Restriction map of the 18 kb B18Ag-1 gene construct. The map shows a linear DNA sequence with XbaI sites at 0, 11-22, 14, 13, 12, 10, 3, and 6 kb. The gene is flanked by XbaI sites. The map is divided into three regions: Clone 2 (approx. 2.5 kb), Clone 3 (approx. 6 kb), and Clone 4 (approx. 3.5 kb). The gene is labeled B18Ag-1.

Fig. 4

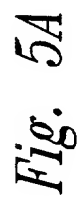


Fig. 5B

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
 BREAST-TUMOR SPECIFIC cDNA B18Ag1

TTA GAG ACC CAA TTG GGA CCT AAT TGG GAC CCA AAT TTC TCA AGT GGA 48
 Leu Glu Thr Gln Leu Gly Pro Asn Trp Asp Pro Asn Phe Ser Ser Gly
 1 5 10 15

GGG AGA ACT TTT GAC GAT TTC CAC CGG TAT CTC CTC GTG GGT ATT CAG 96
 Gly Arg Thr Phe Asp Asp Phe His Arg Tyr Leu Leu Val Gly Ile Gln
 20 25 30

GGA GCT GCC CAG AAA CCT ATA AAC TTG TCT AAG GCG ATT GAA GTC GTC 144
 Gly Ala Ala Gln Lys Pro Ile Asn Leu Ser Lys Ala Ile Glu Val Val
 35 40 45

CAG GGG CAT GAT GAG TCA CCA GGA GTG TTT TTA GAG CAC CTC CAG GAG 192
 Gln Gly His Asp Glu Ser Pro Gly Val Phe Leu Glu His Leu Gln Glu
 50 55 60

GCT TAT CGG ATT TAC ACC CCT TTT GAC CTG GCA GCC CCC GAA AAT AGC 240
 Ala Tyr Arg Ile Tyr Thr Pro Phe Asp Leu Ala Ala Pro Glu Asn Ser
 65 70 75 80

CAT GCT CTT AAT TTG GCA TTT GTG GCT CAG GCA GCC CCA GAT AGT AAA 288
 His Ala Leu Asn Leu Ala Phe Val Ala Gln Ala Ala Pro Asp Ser Lys
 85 90 95

AGG AAA CTC CAA AAA CTA GAG GGA TTT TGC TGG AAT GAA TAC CAG TCA 336
 Arg Lys Leu Gln Lys Leu Glu Gly Phe Cys Trp Asn Glu Tyr Gln Ser
 100 105 110

GCT TTT AGA GAT AGC CTA AAA GGT TTT 363
 Ala Phe Arg Asp Ser Leu Lys Gly Phe
 115 120

Fig. 6

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
 BREAST-TUMOR SPECIFIC cDNA B17Ag1

GC TGGGCACAGT GGCTCATACC TGTAATCCTG ACCGTTTCAG AGGCTCAGGT 60

CG CTTGAGCCCA AGATTTC AAG ACTAGTCTGG GTAACATAGT GAGACCCTAT 120

AA AAATAAAAAA ATGAGCCTGG TG TAGTGGCA CACACCAGCT GAGGAGGGAG 180

CT AGGAGA 196

Fig. 7

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B17Ag2

GC TTGGGGGCTC TGACTAGAAA TTCAAGGAAC CTGGGATTCA AGTCCAAC TG 60
AC TTACACTGTG GNCTCCAATA AACTGCTTCT TTCCTATTCC CTCTCTATTA 120
AA GGAAAACGAT GTCTGTGTAT AGCCAAGTCA GNTATCCTAA AAGGAGATAC 180
AT TAAATATCAG AATGTAAAC CTGGGAACCA GGTCCCAGC CTGGGATTAA 240
CA AGAAGACTGA ACAGTACTAC TGTGAAAAGC CCGAAGNGGC AATATGTTCA 300
TT GAAGGATGGC TGGGAGAATG AATGCTCTGT CCCCAGTCC CAAGCTCACT 360
CT CCTTTATAGC CTAGGAGA 388

Fig. 8

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B13Ag2a

GC CTATAATCAT GTTCTCATT ATTTTCACAT TTTATTAACC AATTCTGTT 60
AA AATATGAGGG AAATATATGA AACAGGGAGG CAATGTTTCA ATAATTGATC 120
TG ATTTCTACAT CAGATGCTCT TTCCTTTCCT GTTTATTTCC TTTTATTTT 180
GG TCGAATGTAA TAGCTTTGTT TCAAGAGAGA GTTTTGGCAG TTTCTGTAGC 240
CT GCTCATGTCT CCAGGCATCT ATTTGCACTT TAGGAGGTGT CGTGGGAGAC 300
CT ATTTTTTCCA TATTTGGGCA ACTACTA 337

Fig. 9

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B13Ag1b

GC CATACAGTGC CTTTCATTT ATTAAACCC CACCTGAACG GCATAAACTG 60
GC TGGTGTTTT TACTGTAAAC AATAAGGAGA CTTTGCTCTT CATTTAAACC 120
AT TTCATATTTT ACGCTCGAGG GTTTTTACCG GTTCCTTTTT ACACTCCTTA 180
TT TAAGTCGTTT GGAACAAGAT ATTTTTCTT TCCTGGCAGC TTTAACATT 240
TT TGTGCTGGG GGAAGTCTGG TCACTGTTT TCACAGTTGC AAATCAAGGC 300
CC AAGAAAAAAA AATTTTTTTG TTTTATTGA AACTGGACCG GATAAACGGT 360
CG GCTGCTGAT ATAGTTTAA ATGGTTTATT GCACCTCCTT AAGTTGCACT 420
GG GGGGNTTTTG NATAGAAAGT NTTTANTCAC ANAGTCACAG GGACTTTTNT 480
NA CTGAGCTAAA AAGGGCTGNT TTTCGGGTGG GGGCAGATGA AGGCTCACAG 540
TC TCTTAGAGGG GGGAAGTCT A 571

Fig. 10

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B13Ag1a

TA ATAACTTAAA TATATTTTGA TCACCCACTG GGGTGATAAG ACAATAGATA 60
TT TCCAAAAAGC ATAAACCAA AGTATCATAC CAAACCAAAT TCATACTGCT 120
CC GCACTGAAAC TTCACCTTCT AACTGTCTAC CTAACCAAAT TCTACCCTTC 180
GG TGGTGCTCA CTACTCTTTT TTTTTTTTTT TTTNTTTTGG AGATGGAGTC 240
CA GCCCAGGGGT GGAGTACAAT GGCACAACCT CAGCTCACTG NAACCTCCGC 300
TT CATGAGATTC TCCTGNTTCA GCCTTCCCAG TAGCTGGGAC TACAGGTGTG 360
TG CCTGGNTAAT CTTTTTTNGT TTTNGGGTAG AGATGGGGGT TTTACATGTT 420
TG GTNTCGAACT CCTGACCTCA AGTGATCCAC CCACCTCAGG CTCCCAAAGT 480
TA CAGACATGAG CCACTGNGCC CAGNCCTGGT GCATGCTCAC TTCTCTAGGC 540

Fig. 11

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B11Ag1

TG CACATGCAGA ATATTCTATC GGTACTTCAG CTATTACTCA TTTTGATGGC 60
AG CCTATCCTCA AGATGAGTAT TTAGAAAGAA TTGATTTAGC GATAGACCAA 120
GC ACTCTGACTA CACGAAATTG TTCAGATGTG ATGGATTTAT GACAGTTGAT 180
GA GATTATTAAG TGATTATTTT AAAGGGAATC CATTAATTCC AGAATATCTT 240
TC AAGATGATAT AGAAATAGAA CAGAAAGAGA CTACAAATGA AGATGTATCA 300
TA TTGAAGAGCC TATAGTAGAA AATGAATTAG CTGCATTTAT TAGCCTTACA 360
TT TTCCTGATGA ATCTTATATT CAGCCATCGA CATAGCATTG CCTGATGGGC 420
GA ATAATAGAAA CTGGGTGCGG GGCTATTGAT GAATTCATCC NCAGTAAATT 480
AC AAAATATAAC TCGATTGCAT TTGGATGATG GAATACTAAA TCTGGCAAAA 540
GG AGCTACTAGT AACCTCTCTT TTTGAGATGC AAAATTTTCT TTTAGGGTTT 600
CT ACTTTACGGA TATTGGAGCA TAACGGGA 638

Fig. 12

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B3CA3c

ACTGATGGAT GTCGCCGGAG GCGAGGGGCC TTATCTGATG CTCGGCTGCC TGTCGTGAT 60
GTGCGCGGCG ATTGGGCTGT TTATCTCAAA CACCGCCACG GCGGTGCTGA TGGCGCCTAT 120
TGCCTTAGCG GCGGCGAAGT CAATGGGCGT CTCACCCTAT CCTTTGCCA TGGTGGTGGC 180
GATGGCGGCT TCGGCGGCGT TTATGACCCC GGTCTCCTCG CCGGTTAACA CCCTGGTGCT 240
TGGCCCTGGC AAGTACTCAT TTAGCGATT TGTCAAATA GGCCTG 286

Fig. 13

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B9CG1

AG CAGCCCCCTT TTCTCAATTT CATCTGTCAC TACCCTGGTG TAGTATCTCA 60
CA TTTTATAGC CTCCTCCCTG GTCTGTCTTT TGATTTTCCT GCCTGTAATC 120
AC ATAAGTCAA GTAAACATTT CTAAAGTGTG GTTATGCTCA TGCACTCCT 180
AA ATAGTTTCCA TTACCGTCTT AATAAAATTC GGATTTGTTT TTNCTATTN 240
CA CCTATGACCG AA 262

Fig. 14

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B9CG3

AG CAAAGCCAGT GGT TTGAGCT CTCTACTGTG TAAACTCCTA AACCAAGGCC 60
TA AATGGTGGCA GGATTTTAT TATAACATG TACCATGCA AATTCCTAT 120
GA TATATTCTTC TACATTTAAA CAATAAAAAT AATCTATTTT TAAAAGCCTA 180
AG TTAGGTAAGA GTGTTTAATG AGAGGGTATA AGGTATAAAT CACCAGTCAA 240
TG CCTATGACCG A 261

Fig. 15

FIG. 15

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B2CA2

CGACGTCGGT AAAATCGGAC ATGAAGCCAC CGCTGGTCTT TTCGTCCGAG CGATAGGCGC	60
CGGCCAGCCA GCGGAACGGT TGCCCGGATG GCGAAGCGAG CCGGAGTTCT TCGGACTGAG	120
TATGAATCTT GTTGTGAAAA TACTCGCCGC CTTCGTTCGA CGACGTCGCG TCGAAATCTT	180
CGAACTCCTT ACGATCGAAG TCTTCGTGGG CGACGATCGC GGTCAGTTCC GCCCCACCGA	240
AATCATGGTT GAGCCGGATG CTGCCCCCGA AGCCCT	276

Fig. 16

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NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B3CA1

CCCAGGTCAA CCAGGCTGCA ACACGCAGGT CCTTGGATTG GGCACGAAGC AGCGCTTCGC	60
TGTTTTCCAG GATTTTCAAC CAGTCGGTCT GGCCGTTCTC ATGGAGCGAG AGCGCCTTGC	120
CCAGCTCATT TTCCAGCGCC TCGTATTCGC TGGAAAAACG CACATCCTCA CCCGCAAAGA	180
CATCCTTTGA AATCGGCTGT TCCGCGAGTT CCAGATANTG CGAGGAGAGC TTGCTCGAAT	240
AGGTCATCCT AACCTTCAA TGCACACCAT GTGCGCCAAT GAATATCTTA ACAATTCAAC	300
TAGTTGGCAT AANAACCGAA CGAAAATCCC AATAGTCTGA AGAGCTCTTT TG	352

Fig. 17

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CTGCATGTCC ACGGCCTGGA TTTACGGGTG GTCGGCGTTC ACCCCTGGCA GCTGGCGCTC	60
TTCCCGACCA GGCCCAGCAG GATGTGTGGG GCAAGGATAA CGGCGTGCGC ATCGCCTCGA	120
CCTATATGCC TACTGGCAAG GCCGAGCCCG TGGAAGGCGG ATTCAGGTTC ANCGGTCGCT	180
GGAGCTTTTC CACCGGCTCC ATGCATTGTG ACTGGCTGTT TCTAGGCGGT CTGTTGCCCA	240
AGCGTGATGG TACGTCTGGC CTGGAGCATG TGACTTTCTG	280

Fig. 18

NUCLEOTIDE SEQUENCE OF THE REPRESENTATIVE
BREAST-TUMOR SPECIFIC cDNA B3CA3

AG GGAGCAAGGA GAAGGCATGG AGAGGCTCAN GCTGGTCCTG GCCTACGACT 60

CT GTCGCCGGGG ATGGTGGAGA ACTGAAGCGG GACCTCCTCG AGGTCCTCCG 120

TC NCCGTCCAGG AGGAGGGTCT TTCCGTGGTC TNGGAGGAGC GGGGGGAGAA 180

TC ATGGTCNACA TCCC 204

Fig. 19

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10

264

Fig. 20

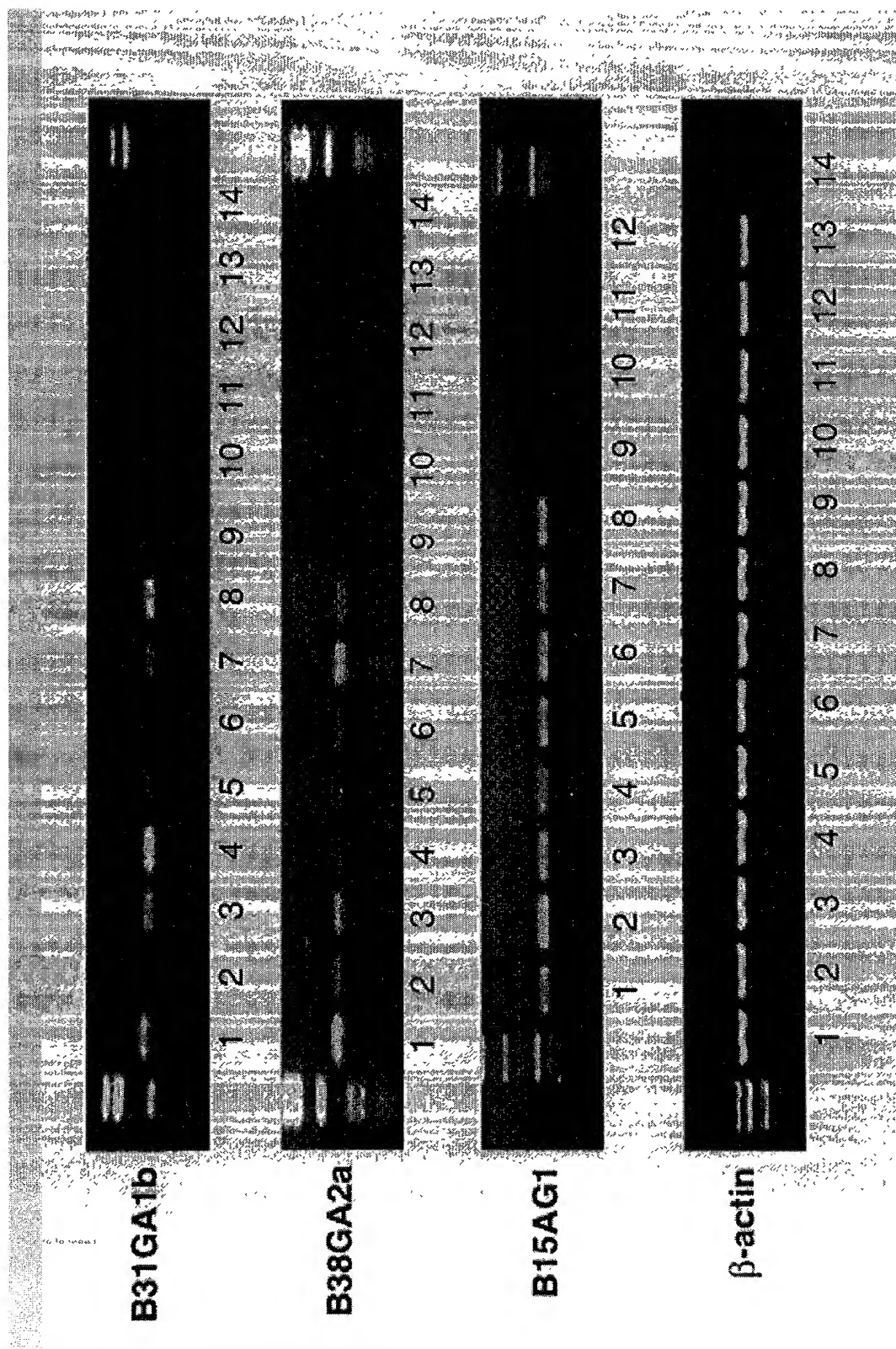


Fig. 21A

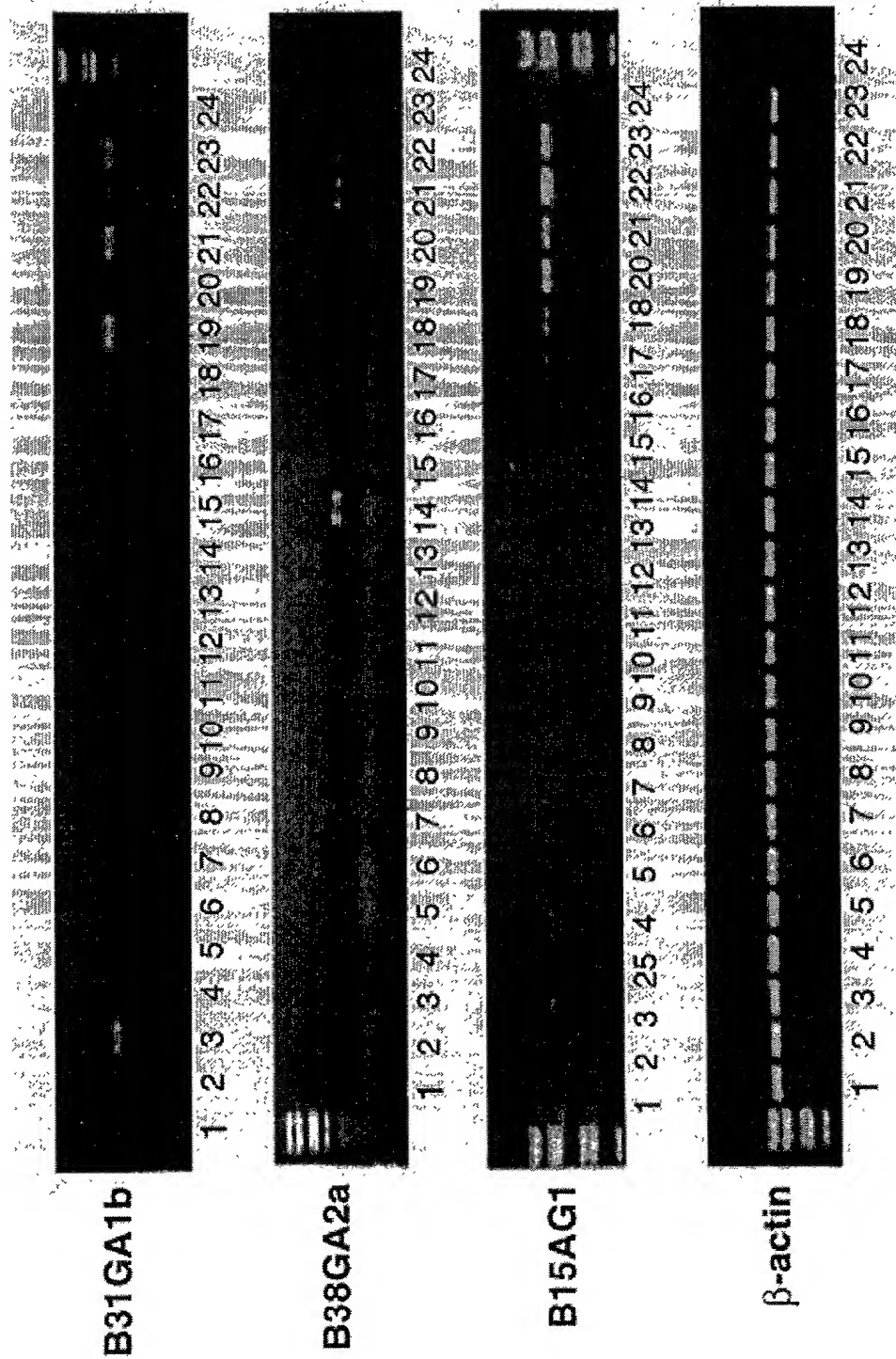


Fig. 21B

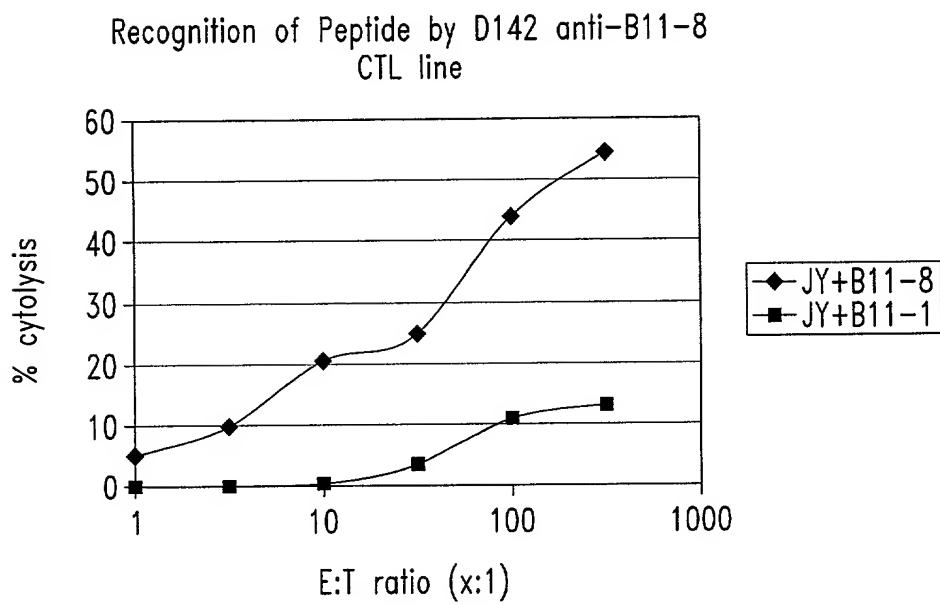


Fig. 22

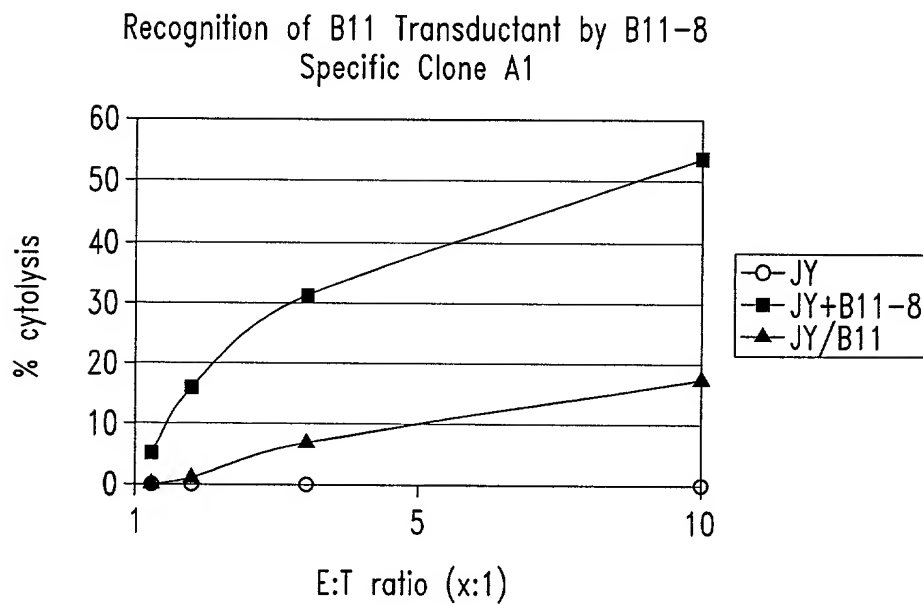


Fig. 23

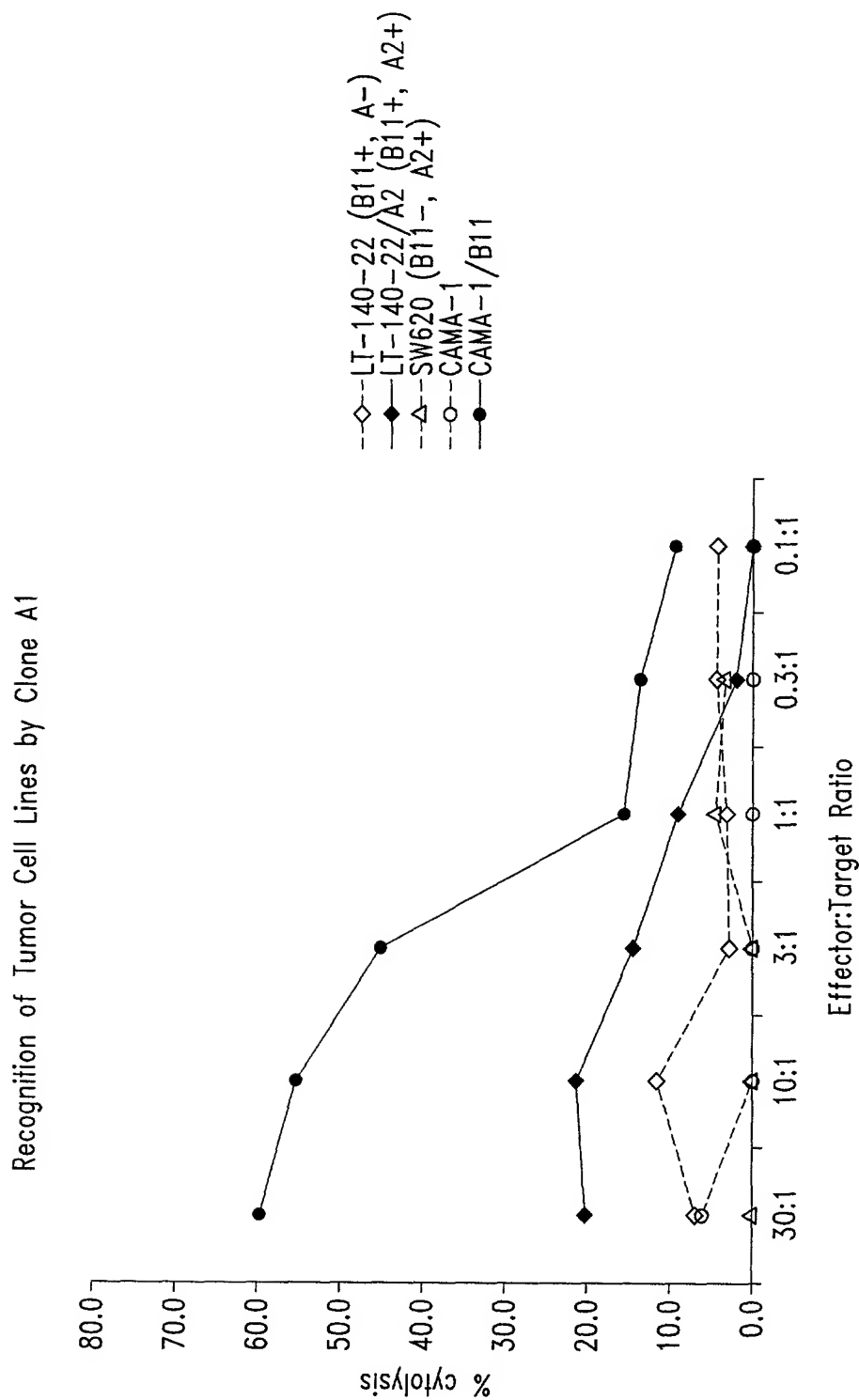


Fig. 24